

Title (en)  
AUTOMATED IDENTIFICATION AND ASSEMBLY OF SHOE PARTS

Title (de)  
AUTOMATISIERTE IDENTIFIKATION UND MONTAGE VON SCHUHTEILEN

Title (fr)  
IDENTIFICATION ET ASSEMBLAGE AUTOMATISÉS DE PIÈCES DE CHAUSSURE

Publication  
**EP 3358486 A1 20180808 (EN)**

Application  
**EP 18000271 A 20121116**

Priority

- US 201113299872 A 20111118
- EP 12849307 A 20121116
- US 2012065572 W 20121116

Abstract (en)

A system (10) that positions and attaches a shoe part in an automated manner during a shoe-manufacturing process, the system (10) comprising: an image recorder that records an image (228) depicting a two-dimensional representation (232) of an attachment shoe part (224), which is to be attached to a base shoe part (226); computer storage media having stored thereon computer-executable instructions that, when executed, cause a computing device to: (A) identify at least one reference feature (258) of the two-dimensional representation (232) of the attachment shoe part (224), (B) determine a geometric coordinate (205) of the attachment shoe part (224) in a geometric coordinate system (225), which maps a three-dimensional space within which the attachment shoe part (224) is positioned and a manufacturing tool (3310) operates, and (C) determine another geometric coordinate (203) in the geometric coordinate system (225) by analyzing a different image (230) of the base shoe part (226); and the manufacturing tool (3310) comprising: (A) a part pickup tool (3100) having a bottom surface adapted for contacting the attachment shoe part (224), and (B) a welding tool (3210) integrated into the part pickup tool (3100), the welding tool (3210) comprised of a distal end (3212) adapted for contacting the attachment shoe part (224) such that the distal end (3212) extends at least to a plane defined by the part pickup tool (3100) bottom surface, wherein the manufacturing tool is notified of the other geometric coordinate (203) and is adapted to transfer the attachment shoe part (224) from the geometric coordinate (205) to the other geometric coordinate (203), thereby moving the attachment shoe part (224) to a location in the three-dimensional space at which the attachment shoe part (224) is to be attached to the base shoe part (226).

IPC 8 full level  
**G06F 19/00** (2018.01); **A43D 1/08** (2006.01); **A43D 11/00** (2006.01); **A43D 111/00** (2006.01); **A43D 117/00** (2006.01); **A43D 119/00** (2006.01); **G05B 19/408** (2006.01); **G05B 19/4097** (2006.01); **G05B 19/4099** (2006.01); **G05B 19/418** (2006.01)

CPC (source: EP KR US)  
**A43D 1/08** (2013.01 - EP KR US); **A43D 11/00** (2013.01 - EP US); **A43D 86/00** (2013.01 - KR US); **A43D 95/00** (2013.01 - KR US); **A43D 111/00** (2013.01 - EP US); **A43D 111/006** (2013.01 - EP KR US); **A43D 117/00** (2013.01 - EP KR US); **A43D 119/00** (2013.01 - EP KR US); **B25J 9/1687** (2013.01 - EP KR US); **B29C 65/08** (2013.01 - EP US); **B29C 65/7802** (2013.01 - EP US); **B29C 65/7847** (2013.01 - EP US); **B29C 66/1122** (2013.01 - EP US); **B29C 66/472** (2013.01 - EP US); **B29C 66/8161** (2013.01 - EP US); **B29C 66/8167** (2013.01 - EP US); **B29C 66/863** (2013.01 - EP US); **B29C 66/9672** (2013.01 - EP US); **G05B 19/402** (2013.01 - KR); **G05B 19/4099** (2013.01 - US); **G06T 7/73** (2017.01 - EP KR US); **A43D 2200/10** (2013.01 - EP KR US); **A43D 2200/30** (2013.01 - EP KR US); **A43D 2200/50** (2013.01 - EP US); **A43D 2200/60** (2013.01 - EP US); **B29C 66/71** (2013.01 - EP US); **B29C 66/727** (2013.01 - EP US); **B29C 66/729** (2013.01 - EP US); **B29C 66/7392** (2013.01 - EP US); **B29C 66/7484** (2013.01 - EP US); **B29L 2031/50** (2013.01 - EP US); **B29L 2031/505** (2013.01 - EP US); **F04C 2270/0421** (2013.01 - EP US); **G05B 2219/37205** (2013.01 - EP US); **G05B 2219/37555** (2013.01 - EP US); **G05B 2219/39107** (2013.01 - EP US); **G05B 2219/45243** (2013.01 - EP US); **G06T 2207/30108** (2013.01 - EP US); **G06V 2201/06** (2022.01 - EP US)

C-Set (source: EP US)  
1. **B29C 66/71 + B29K 2075/00**  
2. **B29C 66/71 + B29K 2021/00**

Citation (search report)

- [A] ES 2142239 A1 20000401 - UNIV MURCIA [ES]
- [A] WO 2010034044 A2 20100401 - STIWA HOLDING GMBH [AT], et al
- [A] US 5148591 A 19920922 - PRYOR TIMOTHY R [CA]

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)  
**US 2013131854 A1 20130523; US 8755925 B2 20140617**; CN 104054082 A 20140917; CN 110223353 A 20190910; CN 110223353 B 20240426; DE 202012013417 U1 20170116; EP 2780847 A1 20140924; EP 2780847 A4 20151111; EP 2780847 B1 20180321; EP 3007089 A1 20160413; EP 3007089 B1 20180328; EP 3358486 A1 20180808; EP 3358486 B1 20200429; EP 3689175 A1 20200805; EP 3689175 B1 20220518; KR 101925117 B1 20181205; KR 102056869 B1 20191218; KR 102187706 B1 20201208; KR 102321835 B1 20211108; KR 20140091758 A 20140722; KR 20180133259 A 20181213; KR 20190140113 A 20191218; KR 20200138427 A 20201209; TW 201334725 A 20130901; TW 201641044 A 20161201; TW 201642774 A 20161216; TW 201733478 A 20171001; TW 201806512 A 20180301; TW 201929713 A 20190801; TW I586293 B 20170611; TW I589245 B 20170701; TW I597021 B 20170901; TW I612914 B 20180201; TW I664928 B 20190711; TW I721402 B 20210311; US 10194716 B2 20190205; US 10667581 B2 20200602; US 11266207 B2 20220308; US 11641911 B2 20230509; US 2014237737 A1 20140828; US 2015374073 A1 20151231; US 2019133258 A1 20190509; US 2020229544 A1 20200723; US 2022151345 A1 20220519; US 9084451 B2 20150721; WO 2013074958 A1 20130523

DOCDB simple family (application)  
**US 201113299872 A 20111118**; CN 201280066818 A 20121116; CN 201910565314 A 20121116; DE 202012013417 U 20121116; EP 12849307 A 20121116; EP 15003012 A 20121116; EP 18000271 A 20121116; EP 20164770 A 20121116; KR 20147016526 A 20121116; KR 20187034602 A 20121116; KR 20197036691 A 20121116; KR 20207034480 A 20121116; TW 101142810 A 20121116; TW 105126173 A 20121116; TW 105126176 A 20121116; TW 106123265 A 20121116; TW 106143119 A 20121116; TW 108112090 A 20121116; US 2012065572 W 20121116; US 201414267503 A 20140501; US 201514803347 A 20150720; US 201916238970 A 20190103; US 202016842379 A 20200407; US 202217587506 A 20220128